IN THE SPECIFICATION

On page 9, lines 6-19, please replace the original paragraph with the following amended paragraph:

The data acquisition circuitry 18 may also transfer acquisition image data to data processing circuitry 20, where additional processing and analysis are performed. The data processing circuitry 20 may perform substantial analyses of image data, including ordering, sharpening, smoothing, feature recognition, and so forth. In addition, the data processing circuitry 20 may receive motion data for one or more organs from one or more sensor-based motion detection systems 34, as discussed in detail below. Based on image-based and/or sensor-based motion data, gating and/or motion compensation may be facilitated by the data processing circuitry 20, such as by determining gating intervals and/or motion ~~corrections~~ compensation factors that may be provided to the system control circuitry 16 and/or operator workstation 22. The processed image data may be stored in short or long term storage devices, such as picture archiving communication systems, which may be located within or remote from the imaging system 10 and/or reconstructed and displayed for an operator, such as at the operator workstation 22.

On page 19, lines 18-24, please replace the original paragraph with the following amended paragraph:

The gating points 110 and motion ~~correction~~ compensation factors 106 derived from the multi-input motion data 72 may be utilized by various image-processing techniques. For example, retrospective gating points, i.e., gating points 110 used for retrospective gating, may be used to select from previously acquired image data based upon a desired state of motion of the organ of interest, as depicted in Fig. 5. The retrospective gating points may be derived from multi-input motion data processing, as depicted at step 132.

On page 19, line 26 to page 20, line 7, please replace the original paragraph with the following amended paragraph:

The step 132 of multi-input motion data processing may include some or all of the steps and data described above with regard to Figs. 2 and 4 and may represent a dynamic step that reflects the acquisition of motion information by sensor and/or image data-based methodologies prior to and/or during the image acquisition interval. The resulting set of multi-input motion data 72 may be processed at the dynamic processing step 132 to extract the desired quiescent periods 88, gating points 110, and/or motion ~~correction~~ compensation factors 106. For example, in the case of cardiac imaging, electrical sensors 42 may be employed to detect the motion of the heart and/or lungs during or prior to image acquisition, allowing the determination of suitable retrospective gating points. Furthermore, one or more mechanical sensors 46, such as accelerometers or displacement sensors may be employed in addition to or instead of electrical sensors 42 to detect the motion of the heart and/or lungs during or prior to image acquisition.

Please replace the Abstract with the following replacement Abstract:

One or more techniques are provided for determining the overall motion of an organ of interest relative to a viewer or imager. Motion data is acquired for the organ of interest and/or for one or more proximate organs using sensor-based and/or image data-based techniques. The sensor-based techniques may include electrical and non-electrical techniques. The image data-based techniques may include both pre-acquisition and acquisition image data. The motion data for the organ of interest and proximate organs may be used to determine one or more quiescent periods corresponding to intervals of minimal motion for the organ of interest and the proximate organs, which may be used ~~. The one or more quiescent periods may be used~~ to determine one or more gating points that may be used retrospectively, ~~i.e., after image acquisition.~~ ~~In addition, the one or more quiescent periods may be used to determine~~ as well as one or more motion compensation factors that may be used to reduce motion-related artifacts during processing and reconstruction of the acquired image data. ~~The gating points and motion compensation factors~~

~~may be used, separately or together, to reduce motion related artifacts in the reconstructed images.~~